

What is claimed is:

1. A quality control device for voice packet communications for transmitting voice packets through a quality non-assurance type network, the device comprising:

a buffer memory for temporarily storing voice packets received through the network and forming a queue of the received voice packets;

queue operating means for operating the queue in accordance with an operation control signal to be supplied;

sequence examining means for examining vocal properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory; and

operation control means for changing the operation control signal in accordance with an examination result of the sequence examining means.

2. The quality control device of Claim 1, wherein:

the operation control means includes:

an operation position determining portion for determining an operation position so as to be dispersed onto the queue and outputting an operation position specifying signal as the operation control signal by the use of an examination result of the sequence examining means; and

the queue operating means includes:

a deletion operating portion for deleting a voice packet existing at an operation position on the queue

corresponding to the operation position specifying signal to be supplied from the queue, and/or

an insertion operating portion for inserting a complementary voice packet that contains predetermined voice information into an operation position of the queue corresponding to the operation position specifying signal to be supplied.

3. The quality control device of Claim 1, further comprising: threshold managing means for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue; and queue length monitoring means for monitoring a relationship between a length of the queue and the upper limit threshold; wherein:

the sequence examining means includes:

a decoding importance detecting portion for detecting decoding importance that is an importance degree when each voice packet is decoded by examining a sequence of voice information contained by a plurality of voice packets that constitute a queue stored in the buffer memory; and

a decoding importance storing portion for temporarily storing the decoding importance detected by the decoding importance detecting portion in correspondence with each voice packet that constitutes the queue; and

the queue operating means includes:

a priority deletion operating portion for preferentially deleting a voice packet assigned to decoding

importance whose importance degree is low from the queue when the queue length monitoring means detects that the queue is longer than the upper limit threshold.

4. The quality control device of Claim 1, further comprising:

dual-talk duration extension/contraction tendency detecting means for detecting an extension/contraction tendency of a length of dual-talk duration during which both the voice signal on the voice reception path and the voice signal on the voice transmission path reach a state of voice presence by making a voice presence/absence judgement for a voice signal on a voice reception path corresponding to a transmission direction of a voice packet that constitutes the queue and a voice signal on a voice transmission path opposite to the direction where a voice is received;

threshold managing means for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue;

first upper limit threshold changing means for changing the upper limit threshold; and

queue length monitoring means for monitoring a relationship between a length of the queue and an upper limit threshold;

wherein the first upper limit threshold changing means changes the upper limit threshold in accordance with an extension/contraction tendency detected by the dual-talk